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ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Townsend and Townsend and Crew LLP		
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Printed name	J. Georg Seka		
Date	March 20, 2007	Reg. No.	24,491

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PATENT
Attorney Docket No. 17990-1-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Confirmation No. 3109
ROGER A. ALLINGTON, ET AL.	Examiner: Drew E. Becker
Application No. 09/187,472	Technology Center/Art Unit: 1761
Filed: November 6, 1998	APPELLANTS' THIRD APPEAL BRIEF PURSUANT TO 37 C.F.R. §41.37(c)
For: ROASTING SYSTEM	
Customer No. 20350	

San Francisco, CA 94111
March 20, 2007

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellants hereby submit this Third Appellants' Brief ("Brief") pursuant to 37 C.F.R. §41.37(c).

This Brief is being submitted in response to the Office Action dated July 27, 2006. Authorization to charge the fee for filing this brief was previously given, and no further fee is believed to be due. However, the Commissioner is authorized to charge any further fee which may be due to Deposit Account 20-1430 of the undersigned.

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I. PROCEDURAL BACKGROUND

Appellants filed a first Appeal Brief on June 10, 2005. In response, no Answer was filed by the Examiner but the previous Final Rejection was withdrawn and the claims were newly rejected over the same primary references in combination with different secondary references. This was followed by a second Appeal Brief, styled "Amended Supplemental Appeal Brief", which was filed on or about May 3, 2006. In response, no Answer was filed by the Examiner, but the previous rejection of the claims was withdrawn and a new Office Action dated July 27, 2006 issued in which the claims were again rejected over the same primary references, but this time in combination with different secondary references.

This is Appellant's third Appeal Brief, which is being filed in response to this latest Office Action dated July 27, 2006 (hereafter the "Office Action").

II. REAL PARTY IN INTEREST

The real party in interest of the subject patent application is Group 32 Development & Engineering, Inc. of Key Biscayne, Florida.

III. RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

IV. STATUS OF CLAIMS

Claims 82-111 are pending. Claims 1-81 are cancelled. Claims 82-111 stand rejected. Appellants appeal from the rejection of claims 82-111.

V. STATUS OF AMENDMENTS

An Amendment After Final Under 37 C.F.R. §1.116 was fax-filed on March 13, 2007 in response to a rejection of claim 103 under 35 USC 112 as being based on a non-enabling disclosure. The Amendment demonstrates that claim 103 is enabled.

To date, Appellants have not been advised whether the Amendment After Final has been entered and, if so, whether the Section 112 rejection has been retracted.

VI. SUMMARY OF CLAIMED SUBJECT MATTER

Generally speaking, the present application defines a system and method for roasting coffee at multiple locations, for example at retail establishments such as supermarkets,

coffee shops and the like. (Application, page 3, lines 9-13.) Its principal features are a centralized, real-time control of roasting operations in such establishments (Application, page 5, lines 5-9) and discharging the exhaust from the roasting operation into interior locations such as the interior of a store without causing any indoor pollution (or undue heating). No exhaust gases are or need to be discharged to the outside of the building (Application, page 3, lines 13-20).

The roasting process and its termination are controlled on the basis of both the color of the roasted beans and the development time line for the beans to reach the desired color or darkness, because only then can the roasting process be replicated to attain the desired taste and aroma profile of the roasted beans, because the profile of the roasted beans varies greatly based on how the ultimate color was attained. (Application, page 5, line 31-page 6, line 8.) "Thus, the key to consistency in the profile is to roast the beans in the same way, time after time." (Application, page 6, lines 12-13.)

The application describes that this control of the desired bean color and roasting development requires generating a first parameter which is indicative that the beans have been sufficiently roasted to yield the desired aroma (finish). This first parameter is then stored. During the roasting at a particular site, for example in a given supermarket, a second parameter (which is compatible with the first parameter) is generated during roasting and it is compared with the stored first parameter. When the parameters match, roasting is terminated.

The progress of the roasting operation is monitored in real time. When the second parameter differs from the first parameter, one (or more) of the roasting parameters, for example the roasting air temperature and/or air flow rate, is adjusted until the development in darkness or color of the beans corresponds to that established by the original sample roast to assure that the finish roasted coffee beans have the "finish" or profile established by the initial sample roast. (Application, page 8, lines 4-18.)

As the foregoing demonstrates, a principal aspect in the roasting of the coffee beans and comparing the first and second parameters is that roasting conditions are adjusted in real time while roasting is in progress so that the production roast (for example at a supermarket) replicates the initial sample roast and, therefore, assures consistent flavor and aroma of the finish roasted beans.

Another principal feature of the present invention is to enable roasting in a closed environment, e.g. inside a supermarket, by conditioning the exhaust gases from the roasting

process so that they can be discharged directly into the store interior, rather than having to be exhausted to the outside environment, without causing pollution to the store interior or unacceptably heating the store interior. In this regard, the present application describes that the exhaust from the roast is passed through an air circulation system which removes substantially all particulates, smoke and volatiles entrained in the exhaust to provide a substantially pollutant-free exhaust gas at an acceptable temperature, e.g. around 100° F. (Application, page 8, line 28-page 9, lines 3 and 11-12.)

A first embodiment, covered by independent claim 102, is a coffee bean roasting method that establishes the degree to which the coffee beans must be roasted to attain a desired aroma by determining a first parameter, which includes at least one of a color and a degree of darkness that the coffee beans must have to yield the desired aroma, generating at least a second parameter which reflects the predetermined development of the first parameter during roasting of the beans, and storing the first parameter. (Application, page 5, line 31-page 6, line 18; page 7, line 31-page 8, line 4.) The method involves roasting the fresh beans at a roasting temperature, monitoring the first parameter during roasting, discontinuing the roasting step when the beans have reached the first parameter, monitoring the second parameter while roasting, and adjusting the roasting step when the second parameter deviates from the predetermined development of the first parameter to maintain the predetermined development of the second parameter. (Application, page 7, line 34-page 8, line 18.)

Independent claim 82 covers a method that includes establishing the degree to which the coffee beans must be roasted to attain a desired aroma, generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma, storing the first parameter, and roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans. (Application, page 5, line 31-page 6, line 18; page 7, lines 31-34.) The method further includes filtering substantially all pollutants from the heated air following the roasting step. Thereafter, the method includes reheating and circulating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue roasting, cooling a minor portion of the filtered air to no more than 115° F, and discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the major portion of the air for further use during roasting. (Application, page 9, lines 4-14; page 3, lines 9-20.) The method further includes

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting and, upon detecting a match between the first and second parameters, discontinuing the roasting step. (Application, page 7, line 34-page 8, line 4.) The steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress. (Application, page 17, line 33-page 23, line 36.)

In the embodiment covered by independent claim 90, coffee beans are roasted to attain a predetermined desired coffee aroma. The method includes roasting a sample of the beans to a degree at which coffee made with the beans exhibits the desired aroma, sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting, and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample, storing the first parameter, and thereafter roasting a batch of more than one pound of fresh beans by flowing heated air over the fresh beans. (Application, page 5, line 31-page 6, line 18; page 7, lines 31-34.) The method also includes cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free, cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans, discharging the cooled, pollutant-free air into a substantially closed room frequented by humans, and monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans. (Application, page 9, lines 4-14.) The method also includes comparing the first and second parameters during roasting of the fresh beans and terminating the roasting of the fresh beans when the first and second parameters match. (Application, page 7, line 34-page 8, line 4.) The steps of roasting, cleaning, cooling and discharging are simultaneously and continuously performed while roasting is in progress. (Application, page 17, line 33-page 23, line 36.)

In the embodiment of independent claim 91, coffee beans are uniformly roasted at a plurality of geographically separate locations. The method includes placing a roasting machine at each location inside an enclosed room frequented by humans, and equipping each roasting machine with a roasting container for holding fresh beans while the beans are being roasted, a hot air supply for heating the fresh beans to a roasting temperature, and an air removal system for directing used air away from the container. (Application, page 8, line 19-page 31.) Substantially

all debris, smoke, oil and other pollutants in a filtration system are removed from the used air. The used air is cooled and at least a portion of the cooled air is discharged into the enclosed room while continuing heating the fresh beans. (Application, page 9, lines 15-31.) The claimed method also includes recirculating a remaining portion of the cooled air to the hot air supply, directing a laser light beam of a frequency in the range of between about 600-800 nm onto the beans in the container during roasting, generating an output signal from laser light reflected by the beans which is a function of the observed darkness of the beans, providing each roasting machine with a computer including a memory, and feeding the output signal to the computer. (Application, page 4, lines 9-14.) At a central control station, an optimal darkness for each bean type is determined that will be roasted by the roasting machines, and a control signal is generated which reflects the optimal darkness of each roasted bean type. The method includes downloading the control signal from the central control station to the computer of each roasting machine, and during roasting at any given roasting machine, comparing the control signal stored in the associated memory with the output signal generated by the instrument; when the compared signals match, a command signal is generated. The command signal is used to terminate the roasting of the beans in the container. (Application, page 9, line 32-page 10, line 7.) The steps of removing, cooling, discharging and recirculating are simultaneously and continuously performed while roasting is in progress. (Application, page 17, line 33-page 23, line 36.)

Independent claim 94 requires establishing the degree to which the coffee beans must be roasted to attain a desired aroma, generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma, and storing the first parameter. (Application, page 5, line 31-page 6, line 18; page 7, lines 31-34.) The method includes roasting a batch of more than one pound of fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans, and while flowing heated air over the fresh coffee beans, removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air directly into a room of a building without recirculating any part of the cooled air into the filtration system. (Application, page 9, lines 4-14.) The method also includes monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting and, upon detecting

a match between the first and second parameters, discontinuing the roasting step. (Application, page 7, line 34-page 8, line 4.)

Independent claim 110 is for roasting coffee beans in a supermarket located inside a building and includes establishing the degree to which the coffee beans must be roasted to attain a desired aroma, generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma, storing the first parameter, and roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans. (Application, page 5, line 31-page 6, line 18; page 7, lines 31-34.) While flowing heated air over the fresh coffee beans, substantially all pollutants are removed from the exhaust, the air downstream of the fresh coffee beans is cooled to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, the cooled air is exhausted into the supermarket. (Application, page 9, lines 4-14.) The method includes monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting, and, upon detecting a match between the first and second parameters, discontinuing the roasting step. (Application, page 7, line 34-page 8, line 4.)

According to independent claim 111, a sample of the beans is roasted inside a supermarket to a degree at which coffee made with the beans exhibits the desired aroma. This involves sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample, storing the first parameter, and thereafter roasting fresh beans by flowing heated air over the fresh beans. (Application, page 5, line 31-page 6, line 18; page 7, lines 31-34.) The method includes cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free, cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans, discharging the cooled, pollutant-free air into the supermarket, monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans, comparing the first and second parameters during roasting of the fresh beans, and terminating the roasting of the fresh beans when the first and second parameters match. (Application, page 9, lines 4-14; page 7, line 34-page 8, line 4.)

VII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Office Action dated July 27, 2006 (the "Office Action") from which this appeal is taken held:

Claims 102-103, 106 and 107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi (U.S. Patent No. 4,849,625) in view of Gell (U.S. Patent No. 4,494,314).

Claims 108 and 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of Gell, Tidland (5,958,494) and de Vries (4,284,609).

Claims 82-85 and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of Tidland, and further in view of de Vries (U.S. Patent No. 4,284,609).

Claims 94-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of de Vries and Tidland.

Claims 86-87 and 98-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of Tidland and de Vries, as applied above, and further in view of Grubbs (U.S. Patent No. 4,110,485).

Claims 104-105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of Gell, as applied above, and further in view of Grubbs.

Claims 88-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of de Vries and Tidland, as applied above, and further in view of Gell (U.S. Patent No. 4,494,314).

Claims 90 and 111 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0040823 in view of Tidland and de Vries.

Claim 91 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of de Vries, Tidland and Grubbs, as applied above, and further in view of Scher (U.S. Patent No. 5,062,066).

Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of Tidland, Grubbs, Scher and de Vries as applied above, and further in view of Helbling (U.S. Patent No. 5,158,793).

Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of Tidland, Grubbs, Scher and de Vries as applied above, and further in view of Gell.

Claims 100-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of de Vries, Tidland and Grubbs, as applied above, and further in view of Gell.

Claim 103 is rejected under 35 U.S.C. 112, first paragraph, as being based on a non-enabling disclosure.

VIII. ARGUMENT

To reject a claim for obviousness under 35 USC 103, the Examiner must establish a prima facie case of obviousness. For this, three basic criteria must be met.

First, the Examiner must identify prior art which teaches all the salient elements recited in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Third, there must be a reasonable expectation that, once combined, the elements will work as expected. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and must not be based on Appellants' disclosure. *In Re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991).

For the reasons discussed in the following, no prima facie case of obviousness was made in regard to any of the claims on appeal.

A. <u>Claims 102-103, 106 and 107 are not obvious over Camerini Porzi in view of Gell.</u>

1. <u>Claim 102</u>

Claim 102 is directed to a coffee roasting method and requires, amongst others, determining a first parameter to attain a desired aroma, generating a second parameter which reflects the predetermined <u>development</u> of the first parameter, discontinuing the roasting step when the coffee beans reach the first parameter, and adjusting the roasting step when the second parameter indicates that a deviation in the predetermined <u>development</u> of the first parameter occurred.

Thus, claim 102 covers the monitoring of the roasting and terminating it when the first parameter has been met. In addition, the claim requires adjustment of the roasting step when the second parameter indicates that a deviation occurred and the predetermined development according to the first parameter was not followed.

In the context of claim 102, the "development" of the first parameter (the color or degree of darkness of the beans) is not the same as the color or darkness, as is taught by the present application, which states in this regard:

> A very important advantage of the present invention is that it permits one to replicate roasting results by using the darkness (or color) development time line for the beans being roasted ... to thereby precisely replicate the development and final taste and aroma profile of the beans. .... How that darkness is attained also determines the final profile of the roasted product, e.g. the roasted beans, because the same darkness (or color) can be attained over a wide range of roasting times .... The profile of the roasted beans will vary greatly based on how the ultimate color was attained. .... Thus, the key to consistency in the profile is to roast the beans in the same way, time after time. This is accomplished with the reflectometer (or spectrometer) and maintaining the preestablished darkness (or color) development time line and parameters.
> (Application, page 5, line 31-page 6, line 16, underlining added)

As the application discloses, when the first and second parameters do not match, there is a deviation in the roasting process, which is undesirable because it will ultimately not lead to the desired result or aroma. In such a situation, one or more of the roasting parameters is adjusted. In this regard, the present application states in relevant parts:

> In addition, the progress of the roasting operation, and in particular the change in darkness or development of the beans during roasting, is monitored in real time and compared to the darkness change encountered during the sample roast. If, during a subsequent on-site production roast, the darkness (or color) development of the beans deviates from that recorded during the sample roast, other roasting parameters, such as the hot roasting air temperature and/or the roasting air flow rate, are adjusted until the change in darkness corresponds to that established by the sample roast. This assures that the coffee bean finish obtained during the sample roast and judged to be optimal for the bean is precisely replicated during each production roast on each of the individual roasting machines that form part of the overall system.
> (Application, page 8, lines 4-18, underlining added)

As acknowledged by the Examiner, Camerini Porzi teaches a method of roasting coffee beans with a photo-emitter, a photo-detector, a colorimeter which produces an output signal equivalent to a desired color, and a comparator which ends the roasting when the signal from the colorimeter and the photo-detector are equal (column 4, lines 22-26 of Camerini Porzi). There is no disclosure or suggestion, indeed there is no mention, in Camerini Porzi to <u>adjust</u> the roasting step in order to reestablish the predetermined <u>development</u> of the second parameter, as contrasted to terminating the roasting step outright when a color match between the outputs of the photo-detector 2 and the colorimeter 7 of Camerini Porzi takes place, or to adjust the roasting so that the first and second parameters coincide and the desired roasting process is precisely replicated.

Although the Examiner acknowledged that Camerini Porzi does not generate a second parameter (and, therefore, cannot compare first and second parameters and make adjustments if there are deviations), he nevertheless held claims 1 and 2 obvious in view of Gell. The Examiner expressed his reasoning as follows (page 4 of the Office Action):

> Gell Jr teaches a method for roasting coffee beans by selecting a bean type and degree of darkness from stored values (column 4, line 61 to column 5, line 19), monitoring the roasting temperature with a thermostat (Figure 2, #60), and adjusting the roasting temperature based upon the thermostat (column 7, lines 38-57). It would have been obvious to one of ordinary skill in the art to incorporate the control features of Gell Jr into the invention of Camerini Porzi since both are directed to methods of roasting coffee beans, since Camerini Porzi already included monitoring the bean color and ending the roasting based upon the bean color (column 4, lines 22-26), since thermostats were commonly used in food heating devices to control the heating temperature, and since the control feature of Gell Jr permitted the automatic roasting of different bean types to many different degrees without the need for human intervention (column 4, line 61 to column 5, line 19).

As correctly pointed out by the Examiner, Camerini Porzi terminates roasting based upon the color of the beans. However, the Gell patent contains no disclosure of permitting the automatic roasting of different bean types to many different degrees when the roasting involves monitoring the <u>development</u> of the bean color and <u>adjusting</u> the roasting step when the first and second parameters indicate a deviation in the <u>development</u> of the roast, as required by claim 102.

Gell is for a small coffee roaster for home use which includes a control switch 19 that can be set to ten different roasts which vary from a light brown color of the beans to black and very oily beans (column 4, line 61 to column 5, line 19 of Gell). Gell's roaster has a thermostat which "automatically turns the heating element on and off to maintain a preset temperature calculated to maintain the temperature within the green bean charge at a predetermined level of approximately 400° F" (column 7, lines 44-47). Gell further discloses that the "roasting time required for an average charge is between 5 and 9 minutes 30 seconds with a short, 5 minute roasting time producing a light cinnamon roast and the 9 minute 30 second roasting time producing a heavy roast" (column 10, lines 64-68).

Gell therefore controls the color of the roasted beans by turning control switch 19 to one of ten possible positions. Each position determines the time during which the beans will be exposed to the set temperature. There is no comparison of the roasted bean to a preset standard (desirable) degree of roast and/or the <u>development</u> of the roast. Instead, control switch 19 is no more than a timing switch which temporarily limits the duration of the roast but accomplishes nothing else. No part of Gell (or Camerini Porzi) contains any mention of generating the first and second parameters as defined in claim 102 and "<u>adjusting</u> the roasting step when the second parameter indicates that a deviation from the predetermined <u>development</u> of the first parameter occurred to thereby reestablish the predetermined <u>development</u> of the second parameter", underlining added, as required by claim 102.

Since Camerini Porzi and Gell, alone or in combination, fail to suggest the compilation of the first and second parameters and/or <u>adjusting</u> the roasting step when the second parameter indicates that a deviation from the predetermined <u>development</u> of the first parameter occurred to thereby reestablish the predetermined <u>development</u> of the second parameter, as is recited in claim 102, claim 102 is not obvious over these references.

2. <u>Claim 103</u>

Claim 103 depends from claim 102 and requires that the second parameter comprises at least one of the roasting temperature and the atmospheric pressure. Neither Camerini Porzi nor Gell disclose or suggest the use of a second parameter and that such a second parameter is either the roasting temperature or the atmospheric pressure.

Accordingly, claim 103 is not obvious over Camerini Porzi and Gell.

3. Claims 108 and 109

Claims 108 and 109 depend from claim 102.

Claim 108 requires "removing substantially all pollutants from the air downstream of the fresh coffee beans being heated, cooling the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter exhausting the cooled air into an enclosed room of a building".

Claim 109 is similarly limited but uses slightly different language and additionally requires that "a minor portion of the filtered air [is discharged] prior to reheating and recirculating the major portion of the air" and filtering out pollutants from the heated air following roasting, then reheating and recirculating a major portion of the pollutant-free air over fresh coffee beans to continue roasting while discharging a minor portion of the filtered air.

The rejection of claims 108 and 109 recognizes that Camerini Porzi and Gell do not teach the removal of pollutants from the exhaust air, recirculating a major portion of the air, and discharging a minor portion of the air. In fact, Gell discharges the polluted air directly into its surroundings after the removal of chaff by mesh filter 13, as is clearly illustrated in Fig. 2. However, Tidland and de Vries were viewed as providing such disclosure.

The obviousness rejection of claims 108 and 109 was justified because the Examiner decided that "Tidland et al teach a method of roasting coffee beans including exhausting reconditioned air into the surrounding room of a retail store where the roaster is placed (column 2, lines 18-44; column 8, lines 5-17) ...." (underlining added)). This constitutes a fundamental misreading and misinterpretation of Tidland by the Examiner.

Nowhere does Tidland support the Examiner's assertion that it exhausts reconditioned air into the surrounding room of a retail store where the roaster is placed. Column 2, lines 18-44 relied on by the Examiner contain no such disclosure. That portion of Tidland states that the roasting chamber includes an "air conditioning system [that] eliminates the need for external venting" (column 2, lines 22-23). Tidland discloses a closed system in which the roasting air is continuously internally recirculated while also cleaned of pollutants and heated as needed. As a result, Tidland can further teach that:

> Continuously filtering the recirculated air allows the roasting system to be placed in a room without requiring outside ventilation and without producing objectionable odors. (column 2, lines 39-42)

The passages in column 8 relied upon by the Examiner in support of his assertion that Tidland's roaster exhausts reconditioned air into the surrounding room does not support the Examiner's position. It states that "the present invention allows small coffee roasting systems to be located in any retail store or coffee shop". This part of Tidland makes no mention that the exhaust is discharged into the retail store or coffee shop. Quite clearly, the reason why the roaster can be placed in such a location is because the continuous filtering and recirculation of the air allows the system to be placed in a room without requiring <u>outside ventilation and without producing objectionable odors</u>, because no exhaust escapes from the roaster.

The further reliance by the Examiner on de Vries does not alter this situation. de Vries discloses to clean a particulate-laden gas stream from any desired source by passing it through a humidifying zone 32 where the gas stream is contacted with a water spray or is mixed with steam, depending upon the characteristics of the gas stream. The humidified gas stream is then directed through a heat exchanger where water condenses and "particulate matter contained in the gas stream is trapped and removed from the gas stream by the condensing water vapor" (column 4, lines 12-14).

One of ordinary skill in the art would find no motivation in de Vries, or in any of the other references applied against claims 108 and 109, to combine the water scrubbing system for removing particulates from gas streams with Appellants' coffee roasting system that requires not only cleaning the exhaust gas and cooling it, but also exhausting it into an enclosed room of a building. Even if de Vries were capable of removing all pollutants so that the exhaust can be discharged into the interior of a room, which is not at all clear, the room would then be filled with contaminated water, which would have to be treated and removed. This hardly constitutes an improvement over discharging exhaust directly to the air as asserted by the Examiner in the Office Action, since handling contaminated water inside an enclosed room entails significant problems, may involve spillage and, therefore, is completely unacceptable for purposes of the invention defined by claims 108 and 109.

Accordingly, claims 108 and 109 are not obvious over Camerini Porzi, Gell, Tidland and de Vries.

B. Claims 82-85 and 110 are not obvious in view of Camerini Porzi, Tidland and de Vries.

1. Claim 82

Claim 82 requires, in a manner analogous to the claims discussed above, to generate and compare the first and second parameters during coffee bean roasting and to terminate roasting when there is a match between the two parameters. In addition, claim 82 requires "filtering substantially all pollutants from the heated air following the roasting step", "cooling a minor portion of the filtered air to no more than about 115° F and discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the major portion of the air for further use during roasting ...."

After acknowledging that Camerini Porzi and Tidland do not teach cooling the gas to less than 115° F, the Examiner relied on de Vries as teaching the cleaning of exhaust air from a coffee roaster by removing pollutants from the air and cooling the exhaust to 110° F before discharge. In view thereof, claim 82 was considered obvious to one of ordinary skill because incorporating "the exhaust cooling of de Vries into the invention of Camerini Porzi, in view of Tidland et al., would have been obvious since all are directed to methods of roasting coffee, since Tidland et al. already included an exhaust system that vented into the surrounding room of a retail store (column 8, lines 15-17), and since the cooling of de Vries would have provided an efficient and convenient means of treating the exhaust air without polluting the surrounding environment with excessive heat".

As discussed above, the Examiner misread and misinterpreted Tidland because Tidland nowhere discloses to discharge the exhaust into a surrounding room or into a retail establishment. To the contrary, Tidland discloses <u>only</u> to recirculate the roasting air internally of the roaster so that no air ever needs to be discharged into the surroundings.

Similarly, Appellants discussed in connection with claim 103 that one of ordinary skill in the art would find no motivation to combine de Vries' generic cooling/cleaning of gases laden with particulates with the coffee roasting operation of the present invention because of the complexity of de Vries' apparatus and the lack of any disclosure how the apparatus could be combined with a coffee roaster of the type defined by the remainder of claim 84. Moreover, the Examiner's assertion that "de Vries would have provided an efficient and convenient means of

treating the exhaust air without polluting the surrounding environment with excessive heat" is misplaced and misleading.

In relevant parts, claim 94 requires removing substantially all pollutants from the exhaust, and cooling the exhaust and discharging it into the room of a building, that is, into an interior, closed space. de Vries is not directed to a coffee roaster as implied in the rejection of claim 82. de Vries merely mentions that its cleansing system might be employed in coffee roasting, without devoting any more to how that might be accomplished in practice. More importantly, even if de Vries were capable of cleaning the gases so that they can be discharged into a closed room, which is not clear from its disclosure, it would involve a necessary accumulation of polluted water in the building room as a trade-off for polluting the air in the room. This is not an "efficient and convenient means of treating the exhaust air without polluting the surrounding environment" as asserted by the Examiner because the surrounding environment will be polluted with contaminated water, which is at a minimum inefficient and inconvenient.

Thus, for at least all of the above reasons, it is submitted that Claim 82, which requires, among other things, "filtering substantially all pollutants from the heated air following the roasting step; thereafter reheating and recirculating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue roasting; cooling a minor portion of the filtered air to no more than about 115° F and <u>discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the relatively major portion of the air for further use during roasting</u>", is not obvious over Camerini Porzi, de Vries and Tidland.

Claim 82 further requires that the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress. None of the prior art references applied against claim 82 teach or in any form suggest this. Thus, for this additional reason, claim 82 is not obvious over Camerini Porzi, de Vries and Tidland.

2. <u>Claim 110</u>

Independent claim 110 has substantially the same limitations as claim 82, although it employs somewhat different terminology, requires that the cleaned exhaust be

discharged into a supermarket, and does not require that only a portion of the exhaust is discharged.

Claim 110 is therefore not obvious over Camerini Porzi, de Vries and Tidland for the same reasons why claim 82 is not obvious over these references.

C. <u>Claims 94-97 are not obvious in view of Camerini Porzi, de Vries and Tidland.</u>

1. <u>Claim 94</u>

Independent claim 94 recites, in addition to the already discussed generating and use of the first and second parameters and terminating roasting when there is a match between them, "removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air directly into a room of a building without recirculating any part of the cooled air into the filtration system ...."

Claim 94 was rejected over Camerini Porzi in view of de Vries and Tidland because de Vries teaches cleaning the exhaust from a coffee roaster by removing pollutants from it and cooling the exhaust to 110° F before discharge. The Examiner considered it "obvious" to incorporate the exhaust and cooling of de Vries into Camerini Porzi "since both are directed to methods of roasting coffee, since Camerini Porzi would have required some means of exhaust but simply did not mention any specific structure, and since the cooling and cleaning of de Vries would have provided an efficient and convenient means of treating the exhaust air without polluting the surrounding environment with excessive heat and particulates" (page 8 of the Office Action).

As already discussed, de Vries is <u>not</u> for a coffee roasting system. de Vries merely mentions that its cleaning system could be used in connection with coffee roasting, without devoting a further word to coffee roasting, or how that might be accomplished.

One of ordinary skill in the art would not consider combining de Vries with Camerini Porzi because neither of the references contains any teaching or suggestion how it might be combined with the other. Moreover, the person of ordinary skill trying to develop a coffee roaster which is non-polluting and can be placed in an indoor environment while nevertheless discharging used exhaust air into the closed environment would not consider

de Vries as an acceptable alternative, because de Vries merely substitutes polluting the required water (for extracting the pollutants) for polluting the exhaust air. Either one or the other would still be discharged into a closed room where it constitutes unacceptable contamination problems.

Thus, contrary to the Examiner's assertion, one of ordinary skill in the art would not be motivated to combine Camerini Porzi with de Vries.

Claim 94 was further rejected because Tidland was misinterpreted as disclosing roasting coffee beans and discharging reconditioned exhaust air into a surrounding room of a retail store where the roaster is placed. As was discussed in greater detail above in connection with claim 102, no part of Tidland discloses or in any manner suggests to discharge cleaned exhaust air to the outside of the coffee roaster. All exhaust air is recirculated internally within the roaster, although it is cleaned in the process. However, no exhaust air is discharged into the surroundings.

One of ordinary skill in the art would therefore find no motivation to combine Camerini Porzi with or without de Vries with Tidland, and even if such a combination were attempted, it would not suggest the above-quoted limitations of claim 94.

Accordingly, claim 94, and claims 95-97 which depend from it, are not obvious over Camerini Porzi, de Vries and Tidland.

D. Claims 86, 87, 98 and 99 are not obvious over Camerini Porzi in view of Tidland, de Vries and Grubbs (4,110,485).

Claims 86 and 87 depend from independent claim 82, and claims 98 and 99 depend from independent claim 94, both discussed above and allowable over the prior art.

These claims are directed to specific light sources and light wave lengths for making spectral analysis of the coffee beans being roasted. These claims are allowable over the applied prior art because they depend from allowable independent parent claims.

E. Claims 90 and 111 are not obvious in view of EP 0040823 in view of Tidland and de Vries.

1. Claim 90

Independent claim 90 is limited in relevant parts to the earlier-discussed generation and comparison of first and second parameters and further requires "cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free; cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing

flowing the heated air over the fresh beans; [and] discharging the cooled, pollutant-free air into a substantially closed room frequented by humans ...."

The claim was rejected for obviousness over EP 0040823 (EP '823) in view of Tidland and de Vries. EP '823 discloses automatically terminating coffee roasting at the end of the roasting cycle. EP '823 discloses to provide a color comparator which compares the color of the beans in the machine with a corresponding electrical measurement signal. This signal is compared with the signal generated by the roasting machine in a comparator. The system includes means for sequentially terminating a variety of roasting functions when the color of the roasted beans and the predetermined reference signal exhibit a difference within a predetermined range.

EP '823 lacks any disclosure when, within a roasting cycle, the termination of the roast should begin and, equally, lacks any disclosure what to do with the exhaust gases that are generated during roasting. EP '823 is essentially irrelevant to claim 90.

In rejecting claim 90, the Examiner acknowledges that EP '823 does not mention removing the pollutants from the exhaust air, cooling it to 115° F or less, or emitting the exhaust into a room.

As is true for the independent claims discussed above, the Examiner again relies on Tidland as teaching to exhaust reconditioned air into the surrounding room of a retail store where the roaster is placed, as well as reheating and recirculating a major portion of the air while discharging a minor portion of the air.

However, in this rejection the Examiner relies on different parts of Tidland, namely on the abstract, and on column 5, line 44 of the specification of Tidland, as disclosing to exhaust reconditioned air into the surrounding room of a retail store. This alternative reliance on Tidland is equally misplaced.

The abstract does <u>not</u> state that reconditioned air is discharged into a surrounding room, or that a minor portion of the air is discharged while a major portion of the air is recirculated.

In relevant parts, the abstract states:

> An air reconditioning system coupled between the air infeed vent and the flue eliminates the need for external venting. .... A fan draws the exhaust air from the roasting chamber, passes the exhaust air through the air filtering system and past the heater and

> then recirculates the filtered and reheated air back into the roasting chamber. Continuously filtering recirculated air allows the roasting system to be placed in retail shops without requiring external ventilation or producing objectionable odors.

What is stated in the abstract of Tidland is no different from the other passages of Tidland relied upon by the Examiner in the rejection of independent claims 82 and 102, for example.

However, in rejecting claim 90, the Examiner additionally relies on line 44 of column 5 as disclosing reheating and recirculating a major portion of the air while discharging a minor portion of the air, apparently referring in both instances to cleaned air. In this rejection, the Examiner has again misread and misinterpreted Tidland.

Column 5, line 44 of Tidland must be read in context of the associated disclosure. It relates to commencing roasting and what happens. Thus, Tidland states in relevant parts in column 5, lines 22-32:

> Green coffee beans fed into the infeed hopper 42, fall into the roasting chamber 36. A start button 71 is depressed on control panel 68 initiating the roasting process and starting motor 56. Fan 30 then forces air up through the perforated plate 37, suspending the green coffee beans on a bed of air above the bottom end of roasting chamber 36. When pressure switch 86 senses air flow, heating elements 54 are activated by electrical controller 52.
>
> The air is heated by heating elements 54 to a sufficient temperature to begin roasting the green coffee beans 15.

Tidland then continues in column 5 , lines 42-53:

> The hot air and smoke are drawn by the fan 30 through cyclone pipe 61 into exhaust section 16. As the hot air <u>expands, some of the excess air in the roasting system 12</u> escapes through the filters 17 and 18 to the outside environment. The remainder of the heated air is drawn by fan 30 down through open dampers 20 into air reconditioning system 43. The air is drawn through the filters 72-78 that are referred to generally as filtering system 56 and past the heating element 54. The air filtering system 56 removes the smoke and other pollutants from the hot air and the heating elements 54 reheat the air. The fan 30 then blows the refiltered and reheated air back into roasting chamber 36. (underlining added)

The underlined wording of the foregoing quotation from column 5 of Tidland constitutes line 44, which was relied upon by the Examiner as disclosing to exhaust reconditioned air into the surrounding room of a retail store.

As is best illustrated in Fig. 4 of Tidland, hot, polluted air from the roasting drum flows into a cyclone (60) for the removal of particulates and from there via a pipe (61) along dashed line (5) past open dampers (20), through filters (72, 74, 76, 78), past heating elements (54), and via fan (30) and duct (32) (see Fig. 1) back to the roasting chamber (36).

Tidland notes that the heating elements (54) heat the air to a sufficient temperature to begin roasting the green coffee beans (column 5, lines 30-31) and notes that "as the hot air expands, some of the excess air in the roasting system 12 escapes through the filters 17 and 18 to the outside environment" (column 5, lines 42-46). Column 5, lines 19-53 and the drawings, particular Fig. 4, teach that the expanding "excess air in the roasting system 12" (column 5, line 44) refers to air in the system during the startup phase.

During the actual roasting process, dampers (20) are open, and contaminated, still-hot air (though not sufficiently hot for roasting) flows through filters (72-78) and past heater (54) back into the roasting chamber. If the air coming from the roasting chamber and cyclone (60) were permitted to exit past filters (17, 18), the exiting air would be both hot and unfiltered, i.e. heavily polluted. Filters (17) and (18) are only casually mentioned as being a coarse and an electronic filter, respectively, without further describing their characteristics or functionality.

In contrast, the characteristics and requirements of filters (72-78), which are downstream of dampers (20) and the filters (17, 18), are discussed in detail in column 4, lines 28-40, and they include, in addition to a coarse fiberglass filter similar to filter (17), a high efficiency electronic filter for removing micron-sized pollution particulates and a carbon filter to remove odors. These filters clean the used air from the roasting chamber and remove odors before the air is recirculated to the roasting chamber.

If just a portion of the recirculating, used air were permitted to escape to the exterior of the roaster past filters (17, 18), the air would be hot (typically in the vicinity of several hundred degrees F) and full of pollutants. If such a machine were to operate in a closed room frequented by humans, the humans would suffocate in short order.

Thus, Tidland teaches exactly what it says, namely to recirculate the filtered and reheated air back into the roasting chamber (column 2, lines 27-28), and no part of the air, except expanding air during startup, is permitted to escape.

One of ordinary skill in the art reading Tidland fairly and as a whole, including but not limited to the phrase on line 44 of column 5, would not consider Tidland to teach to

discharge a minor portion of the filtered air, as recited in claim 109, prior to reheating and recirculating the major portion of the filtered air during roasting.

Accordingly, claim 90 is not obvious over Camerini Porzi in view of Tidland.

In spite of the Examiner's apparent reliance on EP '823 in combination with Tidland for disclosing to exhaust reconditioned air into an enclosed room, as well as reheating and recirculating minor and major portions of the exhaust (which is not disclosed or suggested by either of the two references), the Examiner additionally relies on de Vries as teaching to clean exhaust from a coffee roaster by removing pollutants from the exhaust air and cooling the exhaust air to 110° F, because "de Vries would have provided an efficient and convenient means of treating the exhaust air without polluting the surrounding environment with excessive heat and particulates".

Appellants' objections to de Vries are fully set forth above in opposing the rejection of claims 82 and 102, for example.

As stated in the discussion of these claims, de Vries only mentions that its system for cleansing debris-laden gas streams can be used with coffee roasting. de Vries contains no mention otherwise how this might be done in connection with a coffee roaster. Moreover, contrary to the Examiner's assertion that the de Vries system would provide an "efficient and convenient means" for handling the exhaust without polluting the environment with particulates, at most, de Vries proposes to trade off polluting water (which must be collected at the site and, therefore, inside a room) for polluting the surrounding air. This is neither efficient nor convenient and does not constitute an acceptable alternative. Thus, one of ordinary skill in the art would not consider combining de Vries with EP '823 and/or Tidland. And even if such a combination were attempted, it would not suggest the subject matter of independent claim 90.

Claim 90 is therefore also not obvious over EP '823, Tidland and de Vries.

2. <u>Claim 111</u>

Independent claim 111 was rejected over EP '823, Tidland and de Vries for the same reasons for which claim 90 was rejected. Claim 111 differs only in minor respects from claim 90 and includes the specific limitations discussed above which distinguish claim 90 over the references. In view thereof, claim 111 is also not obvious over EP '823 in view of Tidland and de Vries for the same reasons why claim 90 is not obvious over these references.

F. Claim 91 is not obvious over Camerini Porzi, de Vries, Tidland and Grubbs, and further in view of Scher (U.S. Patent No. 5,062,066).

1. Claim 91

Claim 91 is directed to a method employing the computerized, network system of the present invention in which a given roasting machine is coupled to a computer and which involves:

> a central control station determining an optimal darkness for each bean type that will be roasted by the roasting machines;
>
> at the control station generating a control signal which reflects the optimal darkness of each roasted bean type;
>
> downloading the control signal from the central control station to the computer of each roasting machine;
>
> during roasting at any given roasting machine comparing the control signal stored in the associated memory with the output signal generated by the instrument; when the compared signals match, generating a command signal; and
>
> using the command signal to terminate the roasting of the beans in the container ....

Claim 91 was rejected because in the Examiner's view "Camerini Porzi, Tidland et al., Grubbs and de Vries teach the above-mentioned concepts". However, these references do not recite "controlling multiple roasting machines at different locations".

The Examiner relied on Scher as teaching "a control system for roasting comprising multiple roasters at inherently different locations (column 3, line 50) and monitoring the color of the product (column 5, line 16)". In view thereof, the Examiner considered it obvious "to control multiple roasters as taught by Scher et al. with the invention of Camerini Porzi since both are directed to methods of roasting, since the multiple roasters of Scher et al. would have created more diversified products and reducing the waiting time, and since Camerini Porzi teaches a remote processing unit which is located a distance away from the roaster (column 3, line 63)".

Scher discloses an automatic control for the preparation of food products in the form of a model that describes the effect of operating variables and infeed material qualities on product attributes. The model provides a predicted value for food products which are dynamically compensated so that the predictions track the real response by an amount that can be

compensated (column 1, lines 50-65). Scher therefore "predicts the color of a food product, and uses this predicted color to control the processing of the food product" (column 1, line 66 to 68).

Scher further discloses that a roaster 10 sends sensor information to a first level supervisor 12 which in turn sends control signals to the roaster to control the variables (column 2, lines 48-52). This "first level supervisor" has an I/O section 26 that allows, amongst others, for "system expansion (i.e. additional roasters 10)" (column 3, lines 14-16). Finally, Scher teaches that one of the sensed attitudes is the color and moisture content of nuts being roasted at the inset of the roaster and at its discharge end (column 5, lines 16-21).

In addition to the limitations of claim 91 recited above, claim 91 requires the removal of substantially all smoke, oil and other pollutants from the used air generated by the roaster, and removing, cooling and then discharging at least a portion of the cooled air into an enclosed room while the heating of the fresh beans is continued.

Scher has no corresponding disclosure whatsoever.

The rejection of claim 91 relies on Camerini Porzi, Tidland, Grubbs and de Vries as disclosing all aspects of claim 91, other than the computer control, and from that concludes that one of ordinary skill in the art would have combined Camerini Porzi with Scher "since the multiple roasters of Scher et al. would have created more diversified products and reduced the waiting time ...." The present invention, as defined by claim 91, is not directed to creating more diversified products or reducing waiting times. Such features would therefore not motivate one of ordinary skill in the art to combine Camerini Porzi, alone or in combination with the other secondary references, with Scher.

Further, for the reasons discussed repeatedly above in connection with the rejection of the other independent claims, de Vries, Tidland and/or Grubbs do not disclose or suggest cleaning the roasting exhaust of substantially all pollutants so that, following cooling, the air can be discharged into an enclosed room while roasting continues.

Scher does disclose that its "supervisor 12" in combination with its "second level supervisor 14", both of which are computers, interactively cooperate with the respective roaster "to control the processing of the foods products" (column 1, line 68). The supervisors or computers of Scher provide "predicted roast color values to the control model, also resident in the microprocessor 18. The required input information for the simulation model is provided by on-line measured process and material attribute sensoring information [which is] continuously

transferred from the roaster 10 to the first supervisor level 12." (column 3, lines 20-26). "The feedback and feedforward transfer functions are used by the processor 20 to convert roast color errors (i.e., predicted roast color in comparison to setpoint and on-line measured colors) to zone temperature adjustments. .... The processor 20 therefore receives continuous sensor information from the roaster 10, and provides and calculates predicted roast colors and controller gain constants to output the updated zone temperature setpoints. Further, the processor 20 serves as an input/output analog to digital interface. ...." (column 3, lines 34-48).

In other words, the roaster in Scher is in continuous communication with the essential computer control. The latter monitors the development of the roast and, as necessary, sends instructions to the roasters for making adjustments to the process.

However, according to claim 91, the central control station recited in the claim sets the desired parameters for performing a given roast. These parameters are downloaded to the individual roasters and used to adjust each roaster individually according to the encountered roasting conditions. There is therefore no need to maintain the central computer on-line during roasting, which might be acceptable for one or a few roasters, but would make operations significantly more difficult and cumbersome for systems which have large numbers of roasters, all of which receive the roasting instructions from the central computer but then perform and control the roasting processes internally without continuous on-line access to the central computer.

In view thereof, and disregarding the fact that none of the prior art references applied against claim 91 disclose removing all pollutants from the exhaust generated during coffee roasting and discharging the exhaust, after cooling, into a closed room, none of the references, including particularly Scher, disclose or suggest feeding the output signal of a laser monitoring the beans to the computer of the roasting machine in question, downloading control signals from the central computer to the computer of each roasting machine, and during roasting at any given machine comparing the downloaded control signal with the laser generated output signal so that, when the two match, a command signal is generated for terminating roasting.

In addition and as admitted by the Examiner, Scher does not make up for the lack of disclosure in the other cited references with regard to cleaning the exhaust air. Scher also does not disclose or in any manner suggest discharging cooled, pollutant-free air into a substantially closed room frequented by humans. As noted above, neither do any of the other

cited references. Scher does not suggest or provide any motivation to uniformly roast coffee beans at a plurality of geographically separate locations by placing a roasting machine at each location inside an enclosed room frequented by humans and removing from the used air substantially all debris, smoke, oil and other pollutants in a filtration system; after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans.

Thus, for at least all of the above reasons, claim 91, which is directed to "a method for uniformly roasting coffee beans at a plurality of geographically separate locations", and which requires, among other things, "placing a roasting machine at each location inside an enclosed room frequented by humans" and "removing from the used air substantially all debris, smoke, oil, and other pollutants in a filtration system; after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans", is not obvious over Camerini Porzi, de Vries, Tidland, Grubbs and Scher.

In view of the foregoing, Appellants submit that claim 91, and therewith claims 92-93 which depend from it, are not obvious over Camerini Porzi, Tidland, Grubbs, de Vries and Scher.

G. Claim 103 is enabled by the specification.

Although Appellants have filed an Amendment urging the Examiner to retract the Section 112 rejection of claim 103, they do not presently know whether the Amendment will be entered and, if so, if the rejection will be withdrawn. In view thereof, this rejection is also addressed here.

Claim 103 recites that "the second parameter comprises at least one of the roasting temperature and atmospheric pressure". In the Final Rejection, the Examiner maintains that the application "does not appear to disclose generating a second parameter which is 'at least one of ... atmospheric pressure'". This is not so.

For example, on page 4, lines 20-24, the application discloses:

> Principal parameters that influence the finish of the beans are the roasting speeds, or time over which the beans are roasted, as well as the prevailing pressure in the drum, which will vary in accordance with atmospheric pressure variations. (underlining added)

Similarly, on page 12, line 15-19, the present application discloses that the "prevailing pressure in the roasting chamber" can be monitored and used to determine when roasting should cease or "what roasting parameters, such as heat, air flow or pressure, need to be adjusted".

In view thereof, Appellants submit that the present application does disclose and therefore does enable the "atmospheric pressure" limitation of claim 103. Appellants therefore request that the Section 103 rejection of claim 103 be reversed unless this has already been done by the Examiner in response to the pending Amendment.

IX. CONCLUSION

In view of the foregoing, Appellants request that all rejections of claims 82-111 be reversed and that this application be returned to the Examiner with directions to allow the claims in a speedy manner.

Respectfully submitted,

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X. CLAIM APPENDIX

Claims 1-81 (canceled)

Claim 82 (previously presented): A method of roasting coffee beans comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma;

generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma;

storing the first parameter;

roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans;

filtering substantially all pollutants from the heated air following the roasting step;

thereafter reheating and recirculating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue roasting;

cooling a minor portion of the filtered air to no more than about 115° F and discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the major portion of the air for further use during roasting;

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting;

upon detecting a match between the first and second parameters, discontinuing the roasting step; and

wherein the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress.

Claim 83 (previously presented): A method according to claim 82 wherein the first parameter is one of the color and darkness of the coffee beans and the second parameter is one of the color and darkness of the fresh coffee beans during roasting.

Claim 84 (previously presented): A method according to claim 82 wherein the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress;

including adjusting the step of discontinuing the roasting of the fresh coffee beans as a function of at least one of the roasting temperature and atmospheric pressure.

Claim 85 (previously presented): A method according to claim 82 wherein the step of monitoring comprises making a spectral analysis of the fresh coffee beans during the roasting step.

Claim 86 (previously presented): A method according to claim 85 wherein the step of making a spectral analysis comprises directing a laser beam onto the fresh coffee beans during the roasting step.

Claim 87 (previously presented): A method according to claim 86 wherein the laser beam has a wavelength in the range of between about 600 to 800 nm.

Claim 88 (previously presented): A method according to claim 82 further comprising the steps of providing a multiplicity of different coffee bean types, establishing and storing the first parameter for each coffee bean type, prior to the roasting step selecting one of the multiplicity of coffee bean types for roasting; and wherein the step of discontinuing is carried out when there is a match between the first parameter for the selected coffee bean type and the second parameter.

Claim 89 (previously presented): A method according to claim 88 further comprising the step of establishing a plurality of first parameters for at least one of the multiplicity of coffee bean types, each of which defines a different degree to which the coffee beans must be roasted to attain correspondingly differing desired aromas; prior to the roasting step selecting one of the plurality of first parameters for the at least one coffee bean type; and wherein the step of discontinuing is performed when the second parameter matches the selected one of the first parameters.

Claim 90 (previously presented): A method of automatically roasting coffee beans to attain a predetermined, desired coffee aroma, the method comprising the steps of:

roasting a sample of the beans to a degree at which coffee made with the beans exhibits the desired aroma;

sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample;

storing the first parameter; thereafter roasting a batch of more than one pound of fresh beans by flowing heated air over the fresh beans;

cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free;

cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans;

discharging the cooled, pollutant-free air into a substantially closed room frequented by humans;

monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans;

comparing the first and second parameters during roasting of the fresh beans;

terminating the roasting of the fresh beans when the first and second parameters match; and

wherein the steps of roasting, cleaning, cooling and discharging are simultaneously and continuously performed while roasting is in progress.

Claim 91 (previously presented): A method for uniformly roasting coffee beans at a plurality of geographically separate locations, the method comprising:

placing a roasting machine at each location inside an enclosed room frequented by humans;

equipping each roasting machine with a roasting container for holding fresh beans while the beans are being roasted, a hot air supply for heating the fresh beans to a roasting temperature, and an air removal system for directing used air away from the container;

removing from the used air substantially all debris, smoke, oil, and other pollutants in a filtration system;

after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans;

recirculating a remaining portion of the cooled air to the hot air supply;

directing a laser light beam of a frequency in the range of between about 600-800 nm onto the beans in the container during roasting;

generating an output signal from laser light reflected by the beans which is a function of the observed darkness of the beans;

providing each roasting machine with a computer including a memory; feeding the output signal to the computer;

at a central control station determining an optimal darkness for each bean type that will be roasted by the roasting machines;

at the control station generating a control signal which reflects the optimal darkness of each roasted bean type;

downloading the control signal from the central control station to the computer of each roasting machine;

during roasting at any given roasting machine comparing the control signal stored in the associated memory with the output signal generated by the instrument; when the compared signals match, generating a command signal; and

using the command signal to terminate the roasting of the beans in the container;

wherein the steps of removing, cooling, discharging and recirculating are simultaneously and continuously performed while roasting is in progress.

Claim 92 (previously presented): A method according to claim 91 further comprising the steps of:

keeping an inventory of fresh beans proximate each roasting machine;

monitoring the size of the fresh bean inventory;

generating a low-inventory signal when the fresh bean inventory drops below a predetermined level;

transmitting the inventory control signal to the central control station; and

transferring additional fresh beans to the roasting machine which generated the low-inventory signal upon receipt thereof at the control station.

Claim 93 (previously presented): A method according to claim 91 wherein each roasting machine has a plurality of different fresh bean types which can be roasted and wherein the method further comprises the steps of:

generating an optimal darkness signal for each bean type at the control station; downloading each darkness signal to the computers of the roasting machines of the system; and,

during roasting at any given one of the roasting machines, comparing the output signal from the instrument with the stored darkness signal which corresponds to the bean type being roasted in the container.

Claim 94 (previously presented): A method of roasting coffee beans comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma;

generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma;

storing the first parameter;

roasting a batch of more than one pound of fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans;

while flowing heated air over the fresh coffee beans, removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air directly into a room of a building without recirculating any part of the cooled air into the filtration system;

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting; and,

upon detecting a match between the first and second parameters, discontinuing the roasting step.

Claim 95 (previously presented): A method according to claim 94 wherein the first parameter is one of the color and darkness of the coffee beans and the second parameter is one of the color and darkness of the fresh coffee beans during the roasting step.

Claim 96 (previously presented): A method according to claim 94 including adjusting the step of discontinuing the roasting of the fresh coffee beans as a function of at least one of the roasting temperature and atmospheric pressure.

Claim 97 (previously presented): A method according to claim 94 wherein the step of monitoring comprises making a spectral analysis of the fresh coffee beans during the roasting step.

Claim 98 (previously presented): A method according to claim 97 wherein the step of making a spectral analysis comprises directing a laser beam onto the fresh coffee beans during the roasting step.

Claim 99 (previously presented): A method according to claim 98 wherein the laser beam has a wavelength in the range of between about 600 to 800 nm.

Claim 100 (previously presented): A method according to claim 99 further comprising the steps of providing a multiplicity of different coffee bean types, establishing and storing the first parameter for each coffee bean type, prior to the roasting step selecting one of the multiplicity of coffee bean types for roasting; and wherein the step of discontinuing is carried out when there is a match between the first parameter for the selected coffee bean type and the second parameter.

Claim 101 (previously presented): A method according to claim 100 further comprising the step of establishing a plurality of first parameters for at least one of the multiplicity of coffee bean types, each of which defines a different degree to which the coffee beans must be roasted to attain correspondingly differing desired aromas; prior to the roasting step selecting one of the plurality of first parameters for the at least one coffee bean type; and wherein the step of discontinuing is performed when the second parameter matches the selected one of the first parameters.

Claim 102 (previously presented): A method of roasting coffee beans comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma by determining a first parameter which comprises at least one of a color and a degree of darkness which the coffee beans must have to yield the desired aroma;

generating at least one second parameter which reflects a predetermined development of the first parameter during a roasting of the coffee beans;

storing the parameters;

roasting fresh coffee beans at a roasting temperature;

monitoring the first parameter during roasting and discontinuing the roasting step when the coffee beans reaches the first parameter;

monitoring the at least one second parameter during roasting; and

adjusting the roasting step when the second parameter indicates that a deviation from the predetermined development of the first parameter occurred to thereby reestablish the predetermined development of the second parameter.

Claim 103 (previously presented): A method according to claim 102 wherein the second parameter comprises at least one of the roasting temperature and atmospheric pressure.

Claim 104 (previously presented): A method according to claim 102 wherein the step of monitoring the first parameter comprises directing a laser beam onto the fresh coffee beans during the roasting step.

Claim 105 (previously presented): A method according to claim 104 wherein the laser beam has a wavelength in the range of between about 600 to 800 nm.

Claim 106 (previously presented): A method according to claim 102 further comprising the steps of providing a multiplicity of different coffee bean types, establishing and storing the first parameter for each coffee bean type, prior to the roasting step selecting one of the multiplicity of coffee bean types for roasting; and wherein the step of discontinuing is carried out when the coffee beans reach the first parameter for the selected coffee bean type.

Claim 107 (previously presented): A method according to claim 106 further comprising the step of establishing a plurality of first parameters for at least one of the multiplicity of coffee bean types, each of which defines a different degree to which the coffee

beans must be roasted to attain correspondingly differing desired aromas; prior to the roasting step selecting one of the plurality of first parameters for the at least one coffee bean type; and wherein the step of discontinuing is performed when the coffee beans reach the selected one of the first parameters.

Claim 108 (previously presented): A method according to claim 102 wherein the roasting step comprises flowing heated air over the fresh coffee beans, and including the steps of removing substantially all pollutants from the air downstream of the fresh coffee beans being heated, cooling the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter exhausting the cooled air into an enclosed room of a building.

Claim 109 (previously presented): A method according to claim 102 wherein the step of roasting includes flowing heated air over the fresh coffee beans, and including the steps of filtering substantially all pollutants from the heated air following the roasting step, thereafter reheating and recirculating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue the roasting step; and discharging a minor portion of the filtered air prior to reheating and recirculating the major portion of the air.

Claim 110 (previously presented): A method of roasting coffee beans in a supermarket located inside a building, the method comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma;

generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma;

storing the first parameter;

roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans;

while flowing heated air over the fresh coffee beans removing substantially all pollutants from the air downstream of the fresh coffee beans being heated, cooling the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air into the supermarket;

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting; and,

upon detecting a match between the first and second parameters, discontinuing the roasting step.

Claim 111 (previously presented): A method of automatically roasting coffee beans to attain a predetermined, desired coffee aroma, the method comprising the steps of:

roasting a sample of the beans inside a supermarket to a degree at which coffee made with the beans exhibits the desired aroma;

sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample;

storing the first parameter;

thereafter roasting fresh beans by flowing heated air over the fresh beans;

cleaning the heated air after the heated air has passed the fresh beans so that the air is substantially pollutant-free;

cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans;

discharging the cooled, pollutant-free, room temperature air into the supermarket;

monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans; and

comparing the first and second parameters during roasting of the fresh beans; and terminating the roasting of the fresh beans when the first and second parameters match.

XI. EVIDENCE APPENDIX - NON-APPLICABLE

XII. RELATED PROCEEDINGS APPENDIX - NON-APPLICABLE

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